

CLAIMS

1. Method of deciding on performing a communication
5 connection changeover of a subscriber terminal (T1) in a
wireless communication network comprising at least one
access node (AP1, AP2, AP3), wherein said subscriber
terminal is able to communicate with an access node in said
wireless communication network on two or more frequency
10 bands,

said method comprising the steps of:

detecting and transmitting communication information
from said at least one access node to said subscriber
terminal, said communication information comprising
15 information indicating whether the transmitting access node
is capable to communicate on two or more frequency bands;

processing the transmitted communication information
and determining a communication connection capability of
the transmitting access node on the basis of the frequency
20 band information; and

using the processing result for a decision on a
communication connection changeover of the subscriber
terminal.

25 2. Method according to claim 1, wherein said wireless
communication network is a WLAN, preferably based on an
IEEE 802.11 standard.

30 3. Method according to claim 2, wherein said two or more
frequency bands comprise a frequency band of 2.4 GHz and
one or more frequency bands between 5 and 6 GHz.

35 4. Method according to any of the preceding claims, wherein
said communication information are broadcasted from said at
least one access node to said subscriber terminal
incorporated in a beacon packet.

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5. Method according to any of the preceding claims, wherein said information in said communication information comprise a multiple band indicator related to the transmitting access node.

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6. Method according to any of the preceding claims, wherein said information in said communication information comprise a traffic load indicator related to the frequency bands of the transmitting access node.

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7. Method according to any of the preceding claims, wherein said information in said communication information comprise a frequency band coverage indicator related to frequency bands of neighboring access nodes of the transmitting access node in the wireless communication network.

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8. Method according to any of the preceding claims, wherein said information in said communication information comprise a frequency channel indicator for indicating the frequency channel used by the access node at the respective frequency band.

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9. Method according to any of the preceding claims, wherein said processing step further comprises steps of
detecting a signal strength indicator on a predetermined frequency band; and

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comparing the detected signal strength indicator with a predefined threshold value, wherein the result of the comparison indicates an estimation of the connection capability of an access node on another frequency band.

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10. Method according to any of the preceding claims, wherein the decision on a communication connection changeover is made by the subscriber terminal.

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11. Method according to any of the preceding claims,
wherein a result of the decision on a communication
connection changeover of the subscriber terminal is a
change of the communication connection from the present
5 frequency band to another frequency band which is common to
the subscriber terminal and the access node associated with
the subscriber terminal.

12. Method according to any of claims 1 to 10, wherein a
10 result of the decision on a communication connection
changeover of the subscriber terminal is a change of the
communication connection from the current access node to a
specific frequency band of a neighboring access node which
is common to the subscriber terminal and the neighboring
15 access node to be associated with the subscriber terminal.

13. Method according to any of the preceding claims,
wherein communication information transmitted from two or
more access node in the wireless communication network are
20 processed in said processing step.

14. System for deciding on performing a communication
connection changeover of a subscriber terminal (T1) in a
wireless communication network comprising at least one
25 access node (AP1, AP2, AP3), wherein said subscriber
terminal is able to communicate with an access node in said
wireless communication network on two or more frequency
bands,

said system comprising:

30 means for detecting and transmitting communication
information from said at least one access node to said
subscriber terminal, said communication information
comprising information indicating whether the transmitting
access node is capable to communicate on two or more
35 frequency bands;

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means for processing the transmitted communication information so as to determine a communication connection capability of the transmitting access node on the basis of the frequency band information; and

5 means for deciding on a communication connection changeover of the subscriber terminal by using the processing result.

10 15. System according to claim 14, wherein said wireless communication network is a WLAN, preferably based on an IEEE 802.11 standard.

15 16. System according to claim 15, wherein said two or more frequency bands comprise a frequency band of 2.4 GHz and one or more frequency bands between 5 and 6 GHz.

20 17. System according to any of claims 14 to 16, wherein said means for detecting and transmitting the communication information of the access node are adapted to incorporate the communication information in a beacon packet broadcasted to said subscriber terminal.

25 18. System according to any of claims 14 to 17, wherein said information in said communication information comprise a multiple band indicator related to the transmitting access node.

30 19. System according to any of claims 14 to 18, wherein said information in said communication information comprise a traffic load indicator related to the frequency bands of the transmitting access node.

35 20. System according to any of claims 14 to 19, wherein said information in said communication information comprise a frequency band coverage indicator related to frequency

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bands of neighboring access nodes of the transmitting access node in the wireless communication network.

21. System according to any of claims 14 to 20, wherein said information in said communication information comprise a frequency channel indicator for indicating the frequency channel used by the access node at the respective frequency band.

22. System according to any of claims 14 to 21, further comprising means for detecting a signal strength indicator on a predetermined frequency band; wherein said means for processing are adapted to compare the detected signal strength indicator with a predefined threshold value, the result of the comparison indicating an estimation of the connection capability of an access node on another frequency band, and said means for deciding on a communication connection changeover are adapted use the result of said comparison.

23. System according to any of claims 14 to 22, wherein the means for deciding on a communication connection changeover is located in the subscriber terminal.

24. System according to any of claims 14 to 23, wherein the means for deciding on a communication connection changeover are adapted to decide to change the communication connection from the present frequency band to another frequency band which is common to the subscriber terminal and the access node associated with the subscriber terminal.

25. System according to any of claims 14 to 23, wherein the means for deciding on a communication connection changeover are adapted to decide to change the communication connection from the current access node to a specific

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frequency band of a neighboring access node which is common to the subscriber terminal and the neighboring access node to be associated with the subscriber terminal.

5 26. System according to any of claims 14 to 25, wherein the means for processing the transmitted communication information are adapted to process communication information transmitted from two or more access node in the wireless communication network.

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27. Access node in a wireless communication network, said access node communicating with at least one subscriber terminal wherein said subscriber terminal is able to communicate with the access node on two or more frequency bands,

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said access node comprising:

means for detecting and transmitting communication information to said subscriber terminal, said communication information comprising information indicating whether the access node is capable to communicate on two or more frequency bands.

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28. Access node according to claim 27, wherein said wireless communication network is a WLAN, preferably based on an IEEE 802.11 standard.

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29. Access node according to claim 28, wherein said two or more frequency bands comprise a frequency band of 2.4 GHz and one or more frequency bands between 5 and 6 GHz.

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30. Access node according to any of claims 27 to 29, wherein said means for detecting and transmitting the communication information of the access node are adapted to incorporate the communication information in a beacon packet broadcasted to said subscriber terminal.

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31. Access node according to any of claims 27 to 30,
wherein said information in said communication information
comprise a multiple band indicator related to the access
node.

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32. Access node according to any of claims 27 to 31,
wherein said information in said communication information
comprise a traffic load indicator related to the frequency
bands of the access node.

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33. Access node according to any of claims 27 to 32,
wherein said information in said communication information
comprise a frequency band coverage indicator related to
frequency bands of neighboring access nodes of the access
node in the wireless communication network.

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34. Access node according to any of claims 27 to 33,
wherein said information in said communication information
comprise a frequency channel indicator for indicating the
frequency channel used by the access node at the respective
frequency band.

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35. Subscriber terminal communicating in a wireless
communication network comprising at least one access node
(AP1, AP2, AP3), wherein said subscriber terminal is able
to communicate with an access node in said wireless
communication network on two or more frequency bands,

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said subscriber terminal comprising:

means for receiving communication information
transmitted from at least one access node, said
communication information comprising information indicating
whether the transmitting access node is capable to
communicate on two or more frequency bands;

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means for processing the transmitted communication
information so as to determine a communication connection

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capability of the transmitting access node on the basis of the frequency band information; and

means for deciding on a communication connection changeover of the subscriber terminal by using the processing result.

36. Subscriber terminal according to claim 35, wherein said wireless communication network is a WLAN, preferably based on an IEEE 802.11 standard.

37. Subscriber terminal according to claim 36, wherein said two or more frequency bands comprise a frequency band of 2.4 GHz and one or more frequency bands between 5 and 6 GHz.

38. Subscriber terminal according to any of claims 35 to 37, wherein said means for receiving the communication information means of the access node are adapted to extract the communication information from a beacon packet broadcasted from the access node.

39. Subscriber terminal according to any of claims 35 to 38, wherein said information in said communication information comprise a multiple band indicator related to the transmitting access node.

40. Subscriber terminal according to any of claims 35 to 39, wherein said information in said communication information comprise a traffic load indicator related to the frequency bands of the transmitting access node.

41. Subscriber terminal according to any of claims 35 to 40, wherein said information in said communication information comprise a frequency band coverage indicator related to frequency bands of neighboring access nodes of

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the transmitting access node in the wireless communication network.

42. Subscriber terminal according to any of claims 35 to 41, wherein said information in said communication information comprise a frequency channel indicator for indicating the frequency channel used by the access node at the respective frequency band.

43. Subscriber terminal according to any of claims 35 to 42, further comprising means for detecting a signal strength indicator on a predetermined frequency band; wherein said means for processing are adapted to compare the detected signal strength indicator with a predefined threshold value, the result of the comparison indicating an estimation of the connection capability of an access node on another frequency band, and said means for deciding on a communication connection changeover are adapted use the result of said comparison.

44. Subscriber terminal according to any of claims 35 to 43, wherein the means for deciding on a communication connection changeover are adapted to decide to change the communication connection from the present frequency band to another frequency band which is common to the subscriber terminal and the access node associated with the subscriber terminal.

45. Subscriber terminal according to any of claims 35 to 43, wherein the means for deciding on a communication connection changeover are adapted to decide to change the communication connection from the current access node to a specific frequency band of a neighboring access node which is common to the subscriber terminal and the neighboring access node to be associated with the subscriber terminal.

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46. Subscriber terminal according to any of claims 35 to
45, wherein the means for processing the transmitted
communication information are adapted to process
communication information transmitted from two or more
5 access node in the wireless communication network.